Chapter 9

Managing an ERP Project

LEARNING OBJECTIVES

After reading this chapter, you will be able to understand:

- Management of ERP projects
- Multidimensionality of success of an ERP project
- Critical success factors (CSF) for an ERP project
- Management of risks associated with an ERP project
- Measurement for performance of an ERP project

9.1 INTRODUCTION

An ERP project has to be managed like any other project. InChapter 2, all the phases of an ERP project are enumerated. The project plan is created, after a selection of the ERP solution has been made and an implementation partner has been selected. Generally, the implementation partner would bring in an implementation methodology to manage the project. The methodology would serve as a guide on dividing the project into tasks and sub-tasks. SAP calls its methodology *ASAP*. Oracle calls its methodology *Application Implementation Methodology (AIM)*. People Soft calls their methodology *Compass*. The objective of each of these methodologies is to divide ERP project into phases and enumerate tasks to be performed in each phase as well deliverables. The idea is to ensure that no task is missed or delayed. They all will use a project management tool to manage the project. There are many project management tools in the market. A project management tool will allow the following:

- Create tasks.
- Allocate resources to each task.
- Define a start and finish date for each task.
- Define interdependence of tasks.
- Set milestones.
- Set deliverables.
- Track progress of each task.
- Raise alarms if there is a deviation.

Once the project commences, the progress can be measured by entering the percentage of the completed task. If big tasks have been appropriately broken down into sub-tasks then monitoring the progress becomes simple. The system can check the tasks that are lagging behind the schedule, and raise alerts. The project management system can be configured to send email alerts to the project manager and the persons allocated to the task. The plan

must contain tasks to be done by vendor, implementation partner and the team of the client or host or implementing organization. Milestones are the checkpoints for assessing the health of the project. The project manager can watch every milestone and take corrective actions, if required. Weekly or biweekly milestones are often used. The objective is to complete the project on time and within allotted budget. However, an ERP project may complete on-time and within budget but still may not be considered success if it fails to deliver the set objectives. The success and the failure of ERP projects are discussed in following sections.

9.2 SUCCESS OF AN ERP SYSTEM IS MULTI-DIMENSIONAL

Let us start with what is success, and what is failure? One simple answer is that if people do not fail then they are successful. The only trouble with this answer is that there is need to define failure. It seems that it is required to define either success or failure in order to proceed. An ERP project is considered a failure due to one or more of the following reasons:

1. Cost overrun
2. Schedule overrun
3. System performance deficit
4. Failure to achieve the expected benefits
5. Organization misfit of ERP
6. Low alignment of ERP with business strategy
7. ERP does not meet organization requirements in terms of data, processes or user interface

First two factors pertain to ERP implementation project failure whereas the remaining factors would surface after the system goes live and people start using it. Factors 3 to 7 would impact effectiveness of ERP system.

Some cases where ERP implementation failed that have been reported in the media are mentioned below.

W. L. Gore and Associates were very upset with People Soft Inc., ERP vendor as well as consultants Deloitte & Touche in October 1997. The system went live but it was faulty. Gore and Associates claim that during the installation, Deloitte & Touche consultants called People Soft's customer service hotline for help. Gore expected the consultants to be expert of People Soft as they were certified by People Soft. Gore claims that the installation was a total disaster.

Anderson Consulting and SAP America were held responsible by **FoxMeyer Drug Co.** for pushing them to bankruptcy in 1998. The system went live but the implementation could not handle the huge volume of transactions and had integration problems. The details of the case may be found at Buxbaum. The SAP project has been analysed by experts and it turns out that SAP project was not aligned to FoxMeyer's business strategy. The project also failed due to a very tight schedule that did not permit proper configuration and testing.

The state of Ohio on behalf of Cleveland State University is suing People Soft for $510 million, they have also included Kaludis Consulting Group in their law suit who helped them select and implement the People Soft application. The system did not work as it was full of

bugs and required a huge number of fixes. The university faced difficulty in collecting dues and lost $5 million as it could not collect dues from the students. University is also unhappy about the hardware it had to buy for the new system.

Hershey filed a law suit against ERP vendor SAP AG R/3 in 1999. IBM was their lead consultant. The SAP R/3 implementation was full of bugs and Hershey's inventory went up by 29 per cent from the previous year. But it seems everyone involved learnt from the experience, and in 2002 Hershey upgraded their SAP without hitches. This time, they completed the project within 20 per cent budget under-run. They made 30 improvements to their core business processes within 60 days of going live. There are Web sites quoting various ERP failures.

Each of the failure mentioned so far was considered failure for different and multiple reasons. Simple criteria such as cost over-run or time delays do not work in case of an ERP project. Let us consider cost over-run. It can be checked if an ERP project has over-run its allocated budget only if an accurate reference budget is available. The current state of affairs is very dismal with no mechanism to accurately estimate ERP budget. Most of the projects are estimated by benchmarking them with an earlier implementation. As mentioned in Section 3.3 of Chapter 3, there are direct costs involved that one can estimate but the indirect cost and ongoing cost also makeup for a major share in the total cost. One can compromise on the required customization to keep the cost under check and on schedule. Will such an implementation be called a success?

ERP implementation is an ongoing project and even after it goes live, it is not necessary that the project is over. So, it is hard to declare an ERP project a failure or a success just because it went live or did not go live on the designated date.

As far as the performance is concerned, it can be measured after at least six months or longer after the implementation is over. There is a systematic way of measuring the performance of an ERP system through a balanced scorecard. Balanced scorecard and its application to ERP system performance measure is explained in Section 9.5.

ERP projects are prone to problems such as organizational misfit, misalignment with business strategy and user expectation. If the ERP system does not meet the requirements of the organization, either the system is changed or the business processes are changed. In either case, the changes may add to the chances of failure.

The companies in late 1990s, went for ERP implementation to solve Y2K problem without realizing the complexity of the system. The infrastructure, expertise and mindset were not ready for a complex system like ERP. For instance, Hershey Foods started SAP R/3 implementation with an original schedule of 48 months. The company then forced the implementation to complete in 30 months. They forgot that an ERP project cannot be rushed up from 48 months to 30 months. The system went live on almost the designated date with all sorts of integration problem. Was it a success? As it is known that it was a total failure.

The implementation process often times ignores the *people* dimension. People issues are addressed in Chapter 4. The management needs to support the project, training program and understanding towards employees who are somewhat uncertain or shaky in the

beginning. If the mandate to implement ERP came from the top management, then the user commitment, involvement and sense of ownership may reduce even further. In an organization, technology, task, people and structure are interrelated. A change to one component necessarily implies change to other components. An ERP system brings direct changes to technology as the legacy systems are dumped and client/server architecture, web-based access and central database are implemented. Tasks or processes, of course, affected as the present business processes are replaced by the best practices implemented by the ERP software. The technology and process together almost dissolve the existing functional boundaries and makes the organization much flatter. A comprehensive framework which incorporates various dimensions into account for measuring performance of an ERP project while it is being implemented and after it becomes operational is required. One such framework called balanced scorecard is discussed in Section 9.5.

TABLE 9.1 Most Often Cited Reasons for ERP Implementation Project Failure

Poor communication between relevant parties	57%
Lack of planning of scheduling, resources and activities	39%
No quality control	34%
Milestones not being set	29%
Inadequate co-ordination of resources	26%
Costs getting out of hand (it is a symptom not a cause)	20%
Mismanagement of progress (overlaps with poor communication)	17%
Overall poor management	13%
Suppliers skills overstretched	12%
Supplier under-resourced	11%

An informal survey conducted over 80 organizations by Robbins-Gioia Survey in year 2001 discovered that 51 per cent respondents viewed their ERP implementation as unsuccessful and 46 per cent felt that the ERP system was not being used effectively. The next section talks about a list of reasons for a few successfully implemented systems and some who did not see the success. Some of these reasons are manifestation of bigger issues. In the next section, critical success factors that have been identified in the literature are enumerated.

9.3 CRITICAL SUCCESS FACTORS

Various critical success factors (CSFs) have been identified in the literature. CSFs are the factors that are considered vital for the success of an ERP project. If addressed, CSFs improve the chances for success of an ERP project significantly. CSFs have been divided

into strategic and tactical factors. The groups were further divided into strategic, tactical, operational, organizational and technological. CSFs can also be looked at from the perspective of stakeholders. In an ERP project, end users and the management are the main stakeholders. Various perspective with which CSFs have been studies are summarized in Table 9.2. People have also categorized CSFs for each phase of an ERP project. As we discussed in Chapter 2, following are the phases of an ERP project:

1. Project preparation
2. Requirements engineering
3. ERP solution selection
4. Technical planning
5. Change management and training
6. Implementation and deployment planning
7. Configuration
8. Custom coding
9. Final preparation
10. Go live

Table 9.2 Various Perspectives and Views Used for Analysing CSFs of ERP Projects

Perspective	Views
Geographical	Global–national
Industry	Small–large
Economy	Developed–developing
Stakeholder	End user-management
Ownership	Public–private
Management	Technological–tactical–strategic–operational-organizational

We will look at CSFs applicable to each phase in this section. The maximum number of CSFs identified are 94 that have been put in 15 categories.

- Careful selection of ERP package and implementation partner.
- Clear goals and objectives.
- Project management.
- Interdepartmental communication and co-operation.
- Training and change management.
- Project team competence.
- Top management support
- Vendor support
- Organizational characteristics

- ERP system
- User involvement
- Project monitoring
- Environment
- Implementation strategy
- Software development

In the literature, these phases have been combined into the following three phases specifically for analysing relevance of CSFs:

- Planning phase that consists of the following phases
  - Project preparation
  - Requirements engineering
  - ERP solution selection
  - Technical planning
  - Training
- Implementation phase that consists of the following phases
- Implementation and deployment planning
  - Configuration
  - Custom coding
  - Final preparation
- Stabilization phase that consists of the following phase
  - Go live

Change management is an activity that spans all phases of the project. Incidentally all CSFs are relevant to all three phases of an ERP project. Description of each CSF will make this point clear.

All these factors are explained below in detail.

- **Careful selection of ERP package and implementation partner:** Chapter 8 discusses vendor support and package selection. An ERP vendor's motive is to close a deal as soon as possible. The aim should be to make sure to get it done rightly. Too often, companies jump right in to a project without validating the vendor's understanding of business requirements or their project plan. The more time spent ensures these things are done rightly at the beginning of the project, if less time is spent then fixing problems will take more time later on. A wrong selection of an ERP system would require customization or excessive changes in the business processes. The cost and time may just turn the project into a failure. In the extreme case, the ERP system may not meet the requirements of the organization and the project may have to be abandoned after spending considerable time and money.
- **Clear goals and objectives:** This is arguably one of the most important factors. It is easy to see that many big companies are running SAP or Oracle, but it is hard to

consider that maybe one may not require an ERP system. Perhaps process improvement, organizational redesign or targeted best-of-breed technology will meet business objectives at a lower cost and more effectively. By clearly understanding the business objectives and what one is trying to accomplish with an ERP system, one should be able to make a more appropriate decision on which route to take, which may or may not involve ERP.

- **Project management:** The project management includes proper project planning and its execution. If the team is competent, they will plan the project properly so that there is no fire fighting. All the possible risks must be enumerated and resolved before the project commences. The risk mitigation and management is discussed in Section 9.4. Milestones should be set, proper utilization and co-ordination of resources should be ensured, communication to the all concerned must happen through a formal channel in a timely manner and the progress should be measured. The project management team must be able to pick the early signs of problems and resolve the problems to keep the project on track. A careful selection of project management tools and techniques is critical to the success of the ERP project.
- **Top management support:** Importance of top management support to a project cannot be overemphasized. The energy in the project percolates from the top. The top management allocates budget and resources to the project. An ERP project is a business project. The top management will have to resolve business and people issues. Support from a CIO or IT Director is fine, but it is not enough. The top management creates the project team who run the project. It is the top management that decides the fate of the project by creating a strong and committed ERP team.
- **Interdepartmental communication and co-operation:** An ERP project involves and impacts all functional areas of the organization. It is essential that everyone identifies with the ERP project right from the beginning. ETAM model is discussed in Section 4.4.1 of Chapter 4 that shows the importance of communication and its positive impact on the acceptance of the system. The project management team must create formal channels for communication about the project. People should be informed and not left guessing about the project. The team must also keep the top management informed about the project. The project team must keep itself aware of the expectations of all the groups. Awareness at all levels is required for managing the change as well as project successfully.
- **Project team competence:** The project is run and managed by the project team. The team is responsible for the success of the project. They can ensure that none of the factors that have been mentioned in the last section for failures go out of control. If the team is competent, they will not miss out on critical aspects of an ERP project management. They would focus on quality, co-ordination and measurements to ensure the success of the project.
- **Ensure adequate training and change management:** ERP system has to be learnt and it takes some amount of efforts to use the system effectively. It is important to plan training sessions as part of the project planning. The budget and resources must be allocated to the training program. Before the project commences, all stakeholders need to be involved to win their commitment and support. As discussed in Chapter 4, a change management plan is required to support people to adapt to new ways. Spending time and money on training and change management, is crucial to the

success of any ERP project.

- **Vendor support:** Vendor should proactively learn the business processes of the organization to map the processes and suggest industry's best practices. Vendor should work closely with the client to plan the project and to enhance the chances of success of the ERP project. Trained manpower with sufficient domain knowledge and appropriate tools are essential to the success of the project. The vendor becomes a part of the team at very early stages in the project. A client may involve the vendor right from the stage of requirements specifications till the very last stage of the project. Vendor is responsible for mapping the processes, configuring the system, deploying and providing the support. Vendor support is critical for the success of the project.
- **Organizational characteristics:** We have discussed organizational characteristics in Chapter 4, Chapter 5 and Chapter 7. An organization whose processes are at Level 1 as defined by IBM (refer to Section 7.2.2 of Chapter 7) is considered a mature organization. It is easier to map business processes of a mature organization to that of an ERP system. Other characteristics of organization such as freedom to each stakeholder to communicate his views goes in favour of ERP project.
- **ERP system:** This factor refers to the capability of the chosen ERP system. The selection team and the selection process for ERP system may be excellent but the system selected will be one that is available in the market and even the best available system may be not be a good fit to the organizational needs. The system may require customization, may have reliability issues etc. It is important to identify shortcomings of the system during planning phase and address the issues. The earlier the issues are addressed, the less expensive it would be.
- **User involvement:** Stages theory (refer to Section 1.7 of Chapter 1) can be used to assess user's ability to use advanced level of information systems. If an organization has successfully implemented information system in the past, users will be receptive of the ERP system. If the system has users buy-in, the chances of success go up many folds. The team from the client side should have thorough knowledge of business processes.
- **Project monitoring:** We have talked about competence of the project team as one of the CSFs and project management as another CSF. A team that is not directly involved in the implementation of the project, should monitor the progress of the project and assess success of the project. The team will have to define quantitative success parameters and parameters for monitoring progress of the project. The objective is to pick early signals of slippage and take measures.
- **Environment:** This CSF refers to the environment in which organization operates and the environment in which ERP system has to operate. The market may present new opportunities as a result of deployment of ERP system such as integration of suppliers and customers leading to better supply chain management. The system may provide some level of differentiation to the organization. ERP system may need support from the environment within the organization.
- **Implementation strategy:** Implementation strategy encompasses the high-level decision that are taken throughout the project. Designating a champion, creating a vision for the project, creating a policy for resource allocation and empowering the team are all part of the implementation strategy. A suitable set of decisions at the

high level is an important CSF.

- **Software development:** Most of the organizations have legacy systems and third party solutions that are integrated with the ERP system. This integration requires careful planning of the architecture and then putting all the components together. The team should be knowledgeable and equipped to use advanced tools for achieving the integration.

These critical success factors would help a project team to focus on the key factors to enhance chances of success of an ERP project. The team can identify all the critical factors and assess if the team and the organization are ready to handle the situation, if something goes wrong. The risk mitigation and management plan which is discussed in the following section is to identify all that can go wrong and prepare for it.

9.4 RISK ASSOCIATED WITH AN ERP PROJECT

A risk can be defined as the threat or probability that an action or event will adversely affect the project. The impact of a risk could be negligible—leading to minor inconvenience, marginal—leading to degradation of secondary mission, critical—leading to serious threat to primary objective or catastrophic leading to failure of primary mission. The objective of the project team should be to identify all critical and catastrophic threats to the project and deal with them proactively. There are three quantities associated with a risk:

Event	Associated Probability	Associated Cost	Exposure
E_1	P_1	C_1	$P_1 \times C_1$
E_2	P_2	C_2	$P_2 \times C_2$
E_3	P_3	C_3	$P_3 \times C_3$

In case event E_1 occurs, it will adversely affect the ERP implementation and, in turn, the organization. The likelihood of event E_1 occurring is P_1 and the cost associated with the event is C_1. One can make a list of events that are likely to have an adverse impact on the project, likelihood and cost associated with them. Each of the factors that have been listed in the previous section may pose a threat in multiple ways.

For instance, poor selection of the ERP packages is a major source of risk. The impact of wrong selection would be either excessive customization or major changes required in the business processes. The team leader can do risk analysis and prepare mitigation and management plan. The team need to assess probability P_1 associated with the event—how likely are we to make a wrong selection? The team may involve the ERP team or business process owners to get a better estimate of the probability. The team also needs to estimate the cost of wrong selection. Let us take the figures from the Dell ERP implementation case that was estimated to cost $150 million, but was abandoned after spending $115 million. Let us use $115 million as the cost associated with the wrong selection in our risk analysis. In practice, the associated cost will be estimated. It is assumed that the probability of picking the wrong ERP solution has been estimated to be 0.6. The risk analysis is mentioned below:

Probability of wrong selection, P_1	0.6

Cost	$115 million

Risk exposure = 0.6 × $115 m = $69 million

The figure of $69 million implies that it is a very expensive risk. It is better to safeguard the project against wrong selection. The impact of this risk is critical to catastrophic and will render the project useless. The next step is to mitigate the risk by reducing the associated probability and/or cost. The risk may occur due to one or more of the following reasons:

- Selection team not appropriate.
- Selection process not right.
- Budget is not adequate.
- Time allocated is not adequate.

The mitigation plan would be to allocate sufficient budget and time to the selection process. The selection team is properly constituted and the process itself should be capable of selecting the right product. The mitigation plan aims to reduce the risk exposure by reducing the probability of the risk. The team knowing that wrong selection has been identified as a major risk may opt for a two stage selection process where a prototype is evaluated first or may do a pilot project. The risk management plan aims to contain the risk exposure once the risk has occurred. In this case, the management plan would be to explore business processes that may be changed to adapt to the ERP system or the ERP modules that may need changes. The management plan includes an assessment of the feasibility of the changes, estimates of the cost, time, and the resources required for handling the risk. In case of Dell, if the risk had been identified and its exposure estimated, the management plan would have suggested a phased approach to ERP implementation to contain the exposure.

All possible risks can be analysed the same way. Or one can use AHP for prioritizing the risks and their exposure. AHP is discussed in Chapter 8. The risks with exposure more than the threshold decided by the management need to be addressed by creating mitigation and management plan. Since the resources are limited and not all risks would materialize, therefore, prioritization of risks would enable proper resource allocation to the risk management activity.

The risk identification, mitigation and management planning is an integral part of the ERP project management. There are risks that are specific to an ERP project and these are listed in the previous section. There are risks associated with any project whose major part is software and there are risks associated with any project. The project team must consider all these risks. Some common risks are security, attrition, change in business environment and technology obsolescence.

Table 9.3 lists major risks associated with an ERP project. The risks have been divided into three groups that we have already discussed.

These factors can also be categorized in three different classes: project governance, change management; and technological, processes and people issues. The risks associated with each class are the following:

Project governance

- Management support
- Implementation strategy
- Project team competence
- Consulting

Change management

- Ineffective communication system
- Low user involvement
- Ineffective project management techniques
- Inadequate change management
- Inadequate selection

Technological, processes and people issues

- Complexity of the ERP system
- Inadequate business process re-engineering
- Ineffective vendor
- Inadequate legacy system management
- Poor project monitoring
- Scarcity of resources
- Changing external environment
- Attrition
- Inadequate training

Table 9.3 Risks Associated with an ERP Project

	• Low user involvement • Poor project team skills • Low top management support
Risk associated with every project	• Poor project monitoring • Ineffective project management techniques • Scarcity of resources • Changing external environment • Attrition • Inadequate management of IT issues
Risk associated with a technology project	• Scope creep • Volatile IT system • Instable vendor • Implementation strategy • Inadequate selection • Ineffective communication system • Inadequate change management • Ineffective vendor and consultant

Risk associated with an ERP project	• Inadequate training • Inadequate business process reengineering • Inappropriate implementation strategy • Complexity of the ERP system • Inadequate legacy system management

We have discussed these issues throughout the book. An important observation worth making is that these risks are not independent. For instance, if project team is not competent, the selection, project monitoring, user involvement, project communication and many more risks will become more probable.

As already discussed is the previous section, success of an ERP project is complex to measure. Success of an ERP project means different things to different people. In order to capture everyone's perspective, balanced scorecard can be used.

9.5 MEASURING PERFORMANCE OF ERP SYSTEM USING BALANCED SCORECARD

Balanced Scorecard[10] (BSC) is a strategic planning and management framework. BSC is also discussed in detail in Chapter 5. BSC includes four perspectives for measuring the performance of an organization. BSC has been (Rosemann and Wiese)[11] adapted to measure performance of an ERP system after it becomes operational. In order to measure the performance from a particular perspective, the following can be figured out.

- **Objectives:** What is the objective?
- **Measures:** What variables will be measured to assess if the organization has achieved the objective?
- **Targets:** What are the target values for variables being measured? The parameters that are decided to measure will have initial values and need to set target values. The objectives translate into these target quantitative values. The key indicators should be easy to quantify. Moreover, the data required to be collected should be readily available. Heterogeneous groups should be able to interpret the data easily and the interpretations should be non ambiguous. There are some basic qualities that data must possess such as reliability, relevancy and accuracy.
  If quantitative targets had been set before the project commences, success of the project by looking at the discrepancy between the targets and actuals can be measured. The four perspectives are namely financial perspective, implementation team perspective, end-user perspective and organizational perspective. They are discussed below in detail.

  – **Financial perspective:** The objective is to complete the project within allocated budget. All expenses associated with the project should be measured. The target value of the budget is set in the beginning when the project is started. If the actual expenditure is close to the target value, the project is a success, financially. If actual cost is less in comparison to the budgeted cost, one needs to find out the reason. The expenses are recorded in a detailed manner. There could be some heads where under-spending has happened. If training is one of them, it may indicate that training was not done to the extent planned or the estimates were not higher. If the training

cost has been more than budgeted, it could mean that the budget estimate was not right or more training effort was required than estimated. If consultancy cost has escalated, it may mean that the core competence expected from internal team is less than what was estimated. It could also mean that the amount of customization done has been more than expected. One can look at the different cost heads such as hardware, software and consulting. These measurements could provide lots of insight into the health of the project.

– **Internal process perspective:** The objective from internal process perspective is set while scoping the project such as integration of processes, bringing the transactions into ERP system and removal of bottlenecks. The objectives for implementing an ERP system were discussed in Chapter 3. It is also mentioned that the objective has to be defined quantitatively. For this perspective, the focus will be on the strategic objective. The objective may be to integrate all business units. The variables to be measured may include number of business processes to be covered by the ERP system, number of existing processes that have been discarded and number of processes that have been adapted from the ERP system. These variables will be measured to check the performance of the ERP system from internal processes perspective. If the measured figures are close to the targets or exceed the targets, the project has done well. If the targets could not be achieved, the reasons for the discrepancy would have to be identified.

– **Lower coverage:** Lower coverage would happen if the ERP system was not able to support the processes as expected. A lower number of the processes that were to be adapted from the ERP system than expected may indicate resistance for the change or misjudgement on the part of the implementation team.

– **End-user perspective:** The end-users of the system are the employees of the organization and indirect users are the customers of the organization. Operational benefits are what end-users will see. Objectives from end users perspective may include reduction in a particular cycle time, number of transactions that may be performed per unit time or number of problems in order processing. If the system has been configured properly and the users have been trained properly, variables associated with end-users would give a clear indication.

– **Preparedness for future:** There are three distinct parameters to judge the preparedness for the future. The manpower has to trained, the system has to support the business in the future, and the vendor has to update its ERP system to take care of the future changes in the business environment. The objectives could be set as—train people according to industry standard to make the organization largely independent of the consultants. One needs to set target and measured amount of customization. If large amount of customization has taken place, ERP system may not be able to evolve. It is a strong indicator for the organization to start looking for an alternative. The frequency of new release would indicate preparedness of the vendor to support the organization in the future as well.

Balanced scorecards can be created in tandem. A high-level scorecard may be created for the project manager and then specific cards can be created for each team member. The

objectives for technical team would be different from that of business process owners. But all these scorecards put together would measure the success of the project on all four axes. It will enable us to capture various aspects of success of an ERP project.

High-level scorecards have also been created as shown in Figures 9.1 to 9.4. One should be able to create scorecard for people at every level. The average values would be obtained by consolidating the data from scorecards at the next level of hierarchy.

FIGURE 9.1 Balance Scorecard for Measuring Success of an ERP Implementation Project from Financial Perspective

Financial Perspective		
Objective: Complete the Project Within the Budget		
Variable	**Target (INR)**	**Actual (INR)**
Hardware	75,000	
Consultancy	1,50,000	
Training	65,000	
License	1,25,000	
Project Team	60,000	
Miscellaneous	10,000	

End-user Perspective		
Objective: Improve Operational Efficiency		
Variable	**Target**	**Actual**
Average Time for Completing a Transaction Average Number of Problems in Completing a Transaction Average Time for Obtaining a Report Average Number of User Complaints Average Cycle Time for Accounts Receivable		

FIGURE 9.2 Balance Scorecard for Measuring Success of an ERP Implementation Project from End-user Perspective

Internal Process Perspective		
Objective: Integrate and Improve Processes		
Variable	**Target**	**Actual**
Number of Processes Integrated Number of Processes Adapted from ERP System Number of Processes Abandoned Number of Bottlenecks Removed Number of Business Transaction Covered Average Workload of a User System Availability		

FIGURE 9.3 Balance Scorecard for Measuring Success of an ERP Implementation Project from Internal Process Perspective

Preparedness for Future Perspective		
Objective: Make the Organization Ready for Future		
Variable	**Target**	**Actual**
Training Hours per End User Training Hours per Developer Average Consultancy for a Module Number of New Release of ERP per Year Number of Modules Customized		

FIGURE 9.4 Balance Scorecard for Measuring Success of an ERP Implementation Project from Future Perspective

CONCLUSION

ERP project is like any other project that must be managed. There are many project management tools that are available in the market and extensively used for managing a project. A project management tool will allow us to create a project plan by defining tasks and sub-tasks, and to allocate resources to these tasks. One can do critical path analysis to identify the tasks that can delay the entire project and plan to pay extra attention to these tasks. As the tasks get completed, people would enter the details in, and it is recorded by the project management tool. Any deviation will trigger an action for the project manager. The division of the project into tasks and sub-tasks is guided by the ERP vendor methodology. Each vendor has a methodology that has been developed and refined, based on their experience with ERP projects. The objective is always to complete the project within budget and on time.

The success of an ERP project is judged from multiple perspectives. An ERP project that completes within allocated budget and time may fall short of the user expectations or may be just too difficult to use. The system may just not deliver the benefit the organization expected from the system and hence may be a failure in spite having been completed on time and within budget. There are many cases reported in the literature about the failure of ERP projects. Wrong ERP package selection, wrong implementation partner, not paying enough attention to people issues or wrong technology selection are some of the top reasons for failures. In order to avoid a failure, the project team should identify major risks for their project and prepare a mitigation and management plan.

Balanced scorecard is used for assessing the performance of an ERP project after the system goes live. The performance has to be measured from financial perspective, end-user perspective, internal process perspective and future preparedness perspective.

EXERCISES

Check Your Understanding

1. What does the statement, ‘ERP project has to be managed like any other project’ means to you? How will you manage an ERP project?
2. Why does success of an ERP system depends on multiple factors? What are important factors for measuring success of an ERP system?
3. What are the critical success factors for an ERP project? Explain each factor briefly.

4. What is a risk? Why should the risk mitigation and management is required for an ERP project?
5. How can one use a balanced scorecard to measure success of an ERP project after it has gone live? Prepare a scorecard for a person who handles sales order in the organization.

Apply Your Understanding

1. You have been working with an organization from the beginning of this book. Identify an information system that has been deployed recently.
    1. Find out the factors that were important for the success of the system. Is the system considered a success?
    2. What were the risks associated with the project? Was there a mitigation and management plan?
    3. Find out the measurements that were taken during the project. How were these measurements used?